

Aerial Drones



What's the Risk?

In heavy industry, towers and tall buildings undergo periodic maintenance and visual inspection. At Nutrien, for example, employees perform annual seal verification of safety valves to meet integrity inspections, where workers would climb a 200-foot tower on a fixed ladder. At another site, the company carries out leak detection monitoring of their wastewater treatment pond liner. Traditionally, this would take a full crew 2-3 days to obtain work permits, set up their equipment, open the fence around the pond, climb onto the liner while attached to a retrieval line, and inspect the liner system.

Not only are these jobs strenuous and physically demanding, but they also put workers at the risk of serious injuries and fatalities (SIFs), including:

- Falls from heights
- Slips, trips, and falls
- Gas exposure
- Environmental stress



Impacts

Nutrien cited **several benefits** of using aerial drones for maintenance and inspection at height, including:

- Reduced risk exposure
- Reduced time needed to perform visual inspections
- Cost avoidance of roughly \$10,000-\$15,000 annually
- Reasonable cost investment, especially as the technology continues to improve and costs are reduced



Lessons Learned

While aerial drones were initially used to monitor secure worksites, Nutrien has since expanded its used of drones company-wide, with the hope of replacing outdated drones and scaling up in the future. During the implementation process, there were several **lessons learned**:

- Understand the laws governing airspace and drone licensing; hire a consultant if necessary
- Engage with your IT department from the start to consult on compatibility and integration
- Consider the cost of the technology compared to the cost avoidance of SIF events

They also shared a call to action for drone manufactures, particularly around their role in sharing safety rules and guidelines.

Employer



Nutrien

Based in Saskatoon, Saskatchewan, Nutrien is the world's largest provider of crop nutrients, feed, crop protection and services. The company serves over half a million growers across 1,500 stores worldwide.

